

CLAIMS

1 A pump system for use in a hydrocarbon well (1), comprising:
- a pump (20) capable of being immersed in a hydrocarbon well (1);
5 - an electrical supply source (26) providing electrical power to the pump (20) when immersed in the well (1); and
- a flow meter (32) associated with the pump (20) when immersed in the well (1);
characterised in that the flow meter (32) comprises an electromagnetic flow
10 meter which is supplied with electrical power from the electrical supply source (26).

2 A system as claimed in claim 1, further comprising production tubing (14) extending from the bottom of the well (4) to a well head (2), the pump (20) being carried on the production tubing (14).
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3 A system as claimed in claim 1 or 2, further comprising surface tubing (30) positioned outside the well (1) and connected to the production tubing (14), the electromagnetic flow-meter (32) being carried on the surface tubing.
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4 A system as claimed in claim 1, 2 or 3, wherein the pump (20) comprises a submersible pump (22) driven by an electric motor (24).
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5 A system as claimed in any preceding claim, wherein the electric supply source (26) is positioned at the surface and is capable of delivering a power of between 100 and 1000 kW, and a current of between approximately 10 and 100 A.
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6 A system as claimed in any preceding claim, wherein the pump (20) and the electromagnetic flow-meter (32) are connected in series.

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A system as claimed in any preceding claim, further comprising a system of inductive coupling capable of generating currents of different frequencies in the electromagnetic flow-meter (32) and the pump (20).

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